

## **Urban Area Heat Temperature Bill 2023**

A Bill for an Act to improve the urban ambient air temperature in Victoria. Average air temperatures in Victoria are rapidly rising and are creating a phenomenon known as urban heat islands. This occurs in areas where structures are highly concentrated and there is less green infrastructure. Heat is absorbed, stored and trapped in these urban areas, instead of being reflected and dispersed by green infrastructure. The effects of Urban Heat Islands can cause and worsen a range of health problems, especially in vulnerable populations. These include, but are not limited to heat stroke, heat exhaustion, and heart attacks. There are also other significant negative climate change effects caused by the increase in ambient air temperature.

This Bill will mitigate these effects by implementing more green and environmentally-friendly infrastructure by ensuring new developments are constructed with lighter-coloured roofs, implementing 'green roofs' for high-rise buildings, and increasing canopy coverage across Victoria. Additionally, a scheme will be established to encourage local communities to plant trees. Furthermore, this Bill will provide a public education campaign to raise awareness of the issue. Once implemented, this Bill will increase living standards for individuals who live and work in densely constructed areas, and will increase the resilience of communities to the heat-related effects of climate change. It will also provide several benefits for those living in urban areas. These include improved living standards and more resilience to the heat-related effects of climate change.

A Bill for an Act relating to the Urban Area Heat Temperature.

To be enacted by the Y's Victorian Youth Parliament.

## PART I - Preliminary

### Clause 1 Purpose

The main purposes of this Act are;

- (a) To establish a Plant a Tree Scheme to empower local councils to increase canopy coverage in their area;
- (b) To create awareness in younger generations on the effects of urban ambient air temperature on environment and society;
- (c) To raise the albedo of roof surfaces in Victoria to 0.65;
- (d) To mandate the installation of green roofs on appropriate government buildings;
- (e) To encourage the installation of green roofs of non-government high rise buildings.

### Clause 2 Commencement

This Bill shall commence upon receiving assent from the Youth Governor of Victoria.

### Clause 3 Definitions

In this Bill;

- (a) **Advanced trees** means trees that are aged ten years or above;
- (b) **Albedo** means the measurement of the reflectiveness of a surface where 1 represents 100% of light being reflected and 0 represents 0% of light being reflected;
- (c) **Canopy cover** means the amount of shade that a tree provides and the space under it via its foliage;
- (d) **Cooling Victoria Program** means a government program managed by Solar Victoria which aims to raise the Albedo of existing properties;
- (e) **Developing properties** means residential developments that are in the process of being constructed and/or extended;

- (f) **GGG** means the Growing Green Guide published by the City of Melbourne;
- (g) **Green roofs** means a roof of a building that is partially or entirely covered with vegetation;
- (h) **Government properties** means properties in Victoria that are under the jurisdiction of and used by the Victorian Government;
- (i) **High-rise buildings** means multi-story structures over 25 metres situated primarily in urban centres either privately owned or owned by the government;
- (j) **Mature tree** means a tree which has reached its maximum height and width;
- (k) **Public space** means areas accessible by the general public that are not privately owned;
- (l) **PATS** means the Plant A Tree Scheme;
- (m) **Urban area** means anywhere within metropolitan Melbourne and built-up areas with a large concentration of population;
- (n) **Urban heat island effect (UHIE)** means where paved areas store heat that increases local temperatures and intensifies the impacts of heat waves.

## PART II - Establishment

### Clause 4 Regulation of Cool Roofs on Private Properties

- 4.1 Any roof that is constructed, altered, repaired or replaced on any property, shall use materials which would increase the albedo of that roof to equal to or be greater than 0.65;
- (a) In the case that such materials would cause the building to be in violation of other existing legislation, the roof shall be exempt.
- 4.2 Any existing roof that has an albedo less than 0.35 shall take steps to raise the albedo to 0.65 by July 1, 2040.
- 4.3 The government shall establish the 'Cooling Victoria Program' to make all Victorian properties compliant.

### Clause 5 Installation of Green Roofs on Government-Owned Properties and High-Rise Buildings

- 5.1 All new and existing government buildings shall install green roofs.
- 5.2 Newly installed and updated green roofs shall;
- (a) Be designed, constructed, and maintained in accordance with the Growing Green Guide (GGG);
- (b) Be installed with waterproofing and drainage systems to prevent damage to the building or its occupants;
- (c) Be regularly inspected and maintained by the owner of the building, including;
- (i) Watering and fertilising plants;
- (ii) Weeding and pest prevention;
- (iii) Maintenance of plant housing such as plant beds.
- (d) Building regulations shall be updated to require all existing government buildings to have green roofs by 2050.
- 5.3 A site inspection shall be conducted prior to the installation of a green roof on a government building;

- (a) A building surveyor and/or a structural engineer shall conduct the inspection;
  - (b) Inspections shall assess each building in accordance with Section 3 of the GGG;
  - (c) The results and analysis shall be submitted to the appropriate government department prior to the installation of the green roof;
    - (i) Following submission, the department shall review and approve the inspections.
- 5.4 The existing “Green Our Rooftop” project in Victoria shall be expanded to promote the retrofitting of existing buildings with green roofs;
- (a) All non-government high-rise buildings shall be encouraged to allow the installation of a green roof.

## **Clause 6 Increased Planting of Advanced Trees**

- 6.1 Advanced trees shall be used for new developments and recreational planting;
- (a) Afforestation projects shall facilitate the need of trees in the future;
  - (b) Tree plantations shall be established to provide an adequate space to allow trees to grow into advanced trees;
    - (i) Trees shall be planted on approximately 5 to 20 hectares of land;
  - (c) Trees planted shall be suitable within their designated area;
  - (d) Retail stores who sell trees shall cease the sale of tree saplings under ten years of age;
  - (e) Trees younger than ten years or seeds shall only be available for tree forestation operations;
    - (i) Tree forestation operations shall commit to growing trees until at least ten years of age.

- 6.2 Advanced trees shall be planted in less densely constructed urban areas to achieve maximum canopy coverage;
- (a) This includes suburbs approximately 20 km outside of Melbourne CBD.
- 6.3 Trees for planting shall be suitable for designated areas and for the Victorian climate;
- (a) This shall not be applicable to personal or recreational gardening;
- (b) Pre-existing trees shall be exempt and should be left as is;
- (c) The following species shall be considered appropriate;
- (i) River Red Gum (*Eucalyptus Camaldulensis*);
- (ii) Swamp Gum (*Eucalyptus Ovata*);
- (iii) Manna Gum (*Eucalyptus Viminalis*);
- (iv) Blackwood (*Acacia Melanoxylon*);
- (v) Drooping She-Oak (*Allocasuarina Verticillata*);
- (vi) Sweet Bursaria (*Bursaria Spinosa*);
- (vii) Golden Wattle (*Acacia Pycnantha*);
- (viii) Silver Banksia (*Banksia Marginata*).
- 6.4 Developers shall not be permitted to remove pre-existing trees to make way for new developments.

**Clause 7 The Establishment of Plant A Tree Scheme (PATS)**

- 7.1 The Plant A Tree Scheme (PATS) shall be established.
- 7.2 PATS shall;
- (a) Run for a minimum of 10 years;
- (b) Plant 6.5 million trees;
- (c) Undergo an annual performance and outcome review.
- 7.3 Under PATS, local councils shall have the following responsibilities;
- (a) Setting up and managing a PATS webpage on their local council website that shall outline the following;
- (i) The importance and benefits of planting more trees;

- (ii) The types of trees that should be planted in their local area as determined by each local council;
  - (iii) Tree species fact sheets;
  - (iv) Information on how to get involved with community tree-planting events.
- (b) Planning and guiding the community where trees shall be planted;
  - (c) Maintenance of trees that have been planted through PATS;
  - (d) The organisation and facilitation of community tree-planting events;
  - (e) Answering any questions or enquiries regarding the PATS in their local community;
  - (f) Reporting data to the Victorian government for monthly reviews.
- 7.4 Local councils shall collect and publicly share the following data;
- (a) The location of planted trees;
  - (b) The types of trees that have been planted;
  - (c) The approximate age of the trees;
  - (d) The number of trees planted in a specified area;
  - (e) If the tree was planted by an individual, organisation or government;
  - (f) If the tree was planted through an established initiative;
  - (g) The canopy coverage percentage per suburb compared against the desired canopy coverage targets;
  - (h) If there are any special attributes about the tree planted.
- 7.5 The Victorian Government shall provide grants to local councils;
- (a) Grants shall be provided to priority areas first;
  - (b) Grants shall be non-competitive;
  - (c) It shall be up to the Minister's discretion if the grant has any additional stipulations.

- 7.6 The Victorian Government shall establish partnerships to aid local councils in the planning, sourcing, planting and maintenance of trees. These partnerships shall include;
- (a) Private organisations;
  - (b) Charities and other non-profit services;
  - (c) Other government bodies.
- 7.7 The Victorian Government shall establish and maintain a state tree tracker, and provide a visual representation of the trees that have been planted through PATS;
- (a) This shall be accessible and viewable by the general public;
  - (b) This shall be updated regularly;
  - (c) The data shall be analysed to;
    - (i) Identify trends;
    - (ii) Identify strong and weak points;
    - (iii) Determine if strategies need to change based on the data.
- 7.8 PATS shall promote several events to encourage community engagement in the scheme;
- (a) These events shall be optional;
  - (b) Organisers shall maintain agency over the planning and facilitation of these events;
    - (i) Individuals shall be provided with a tree to plant via PATS.
  - (c) These events may include;
    - (i) When a child is born;
    - (ii) When a patient completes a long-term treatment in a public hospital;
    - (iii) Annual tree planting events at public primary and secondary schools;
    - (iv) Upon purchasing a first home;
    - (v) When an individual retires;
    - (vi) When a family member or friend passes away.



**Clause 8    Inclusion of Urban Ambient Air Temperature in the Victorian Curriculum**

- 8.1    Urban Ambient Air Temperature topics shall be included in primary and secondary curriculum, which shall;
- (a)    Consider the values of the school;
  - (b)    Consider the year level to which it is being delivered;
  - (c)    Be developed according to levels of comprehension and understanding of global topics.
- 8.2    Training shall be provided to teachers.
- 8.3    The creation of this new curriculum shall be decided by;
- (a)    Expert psychologists;
  - (b)    Environmentalists;
  - (c)    Science teachers.
- 8.4    The curriculum shall consider the psychological effects on children when it comes to environmental studies.